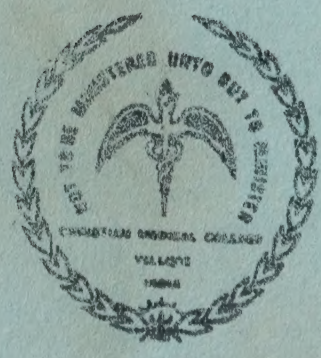


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MB-B-92

Teaching Undergraduates Community Medicine through a Problem-solving, Community-based Approach



Community Health Department,
Christian Medical College, Vellore.

1988

01854



Go in search of your people:

Love them;

Learn from them;

Serve them;

Begin with what they have;

Build on what they know;

But of the best leaders

When their task is accomplished'

Their work is done,

The people all remark

"We have done it ourselves".

- a Chinese proverb

01854

MP-100

COMMUNITY HEALTH CELL
326, V Main, I Block
Koramangala
Bangalore-560034
India

THE VELLORE MODEL

The Christian Medical College and Hospital, Vellore, India, has the twin objectives of providing highly efficient medical service for the people of the region and serving as a training institute for doctors, nurses, and paramedical personnel. In its latter capacity it aims to produce health personnel who will be equipped to work in either large hospitals with sophisticated facilities or small rural hospitals and dispensaries with extremely limited equipment.

Through a programme known as the Family Health Advisory Service, the college had, since 1957, been giving medical students practical experience in working in villages with families. It was found, however, that this programme had a number of serious limitations and did not greatly interest the students or adequately prepare them for participating in basic community health care. The curriculum was therefore reorganized in 1975 to give medical students the type of experience that will better equip them to help meet India's primary health care needs.

The new educational process attempts to produce a person with adequate knowledge of human biology and laboratory sciences and competence in basic diagnosis and management of illnesses. He must also have the knowledge, attitude and skills necessary to prevent illnesses and promote health.

In order to fulfil these goals - training in community health now takes place in four phases: during the first year of medical school, the first and second clinical years, and internship. Each phase has specific objectives, and is designed to build on the experience gained in the previous phases.

PHASE I COMMUNITY ORIENTATION PROGRAMME (COP) - FIRST YEAR MBBBS

The COP has been organised with the following objectives:

1. To bring about an awareness of the:
 - a) social and economic status of the rural community
 - b) demographic structure of the community
 - c) environmental status of the community
 - d) influence of social, economic and environmental factors on health and diseases
 - e) existing health practices and beliefs about disease, its causes and prevention.
 - f) role of Government and voluntary organization and their programmes in improving the welfare of the rural community
 - g) role of various members of a health team
 - h) principles of health education.

2. To provide the student with skill in:

A) Making a community diagnosis by

- i) interviewing individuals and families
- ii) carrying out a field survey
- iii) using appropriate sampling techniques
- iv) analysis of data
- v) interpretation of data

B. Organizing a community programme by:

- i) identifying leaders and enlisting their co-operation
- ii) enlisting community participation especially by working through leaders, youth and women group.

C. Carrying out health education for individuals and groups using appropriate health education methods such as flash cards, flip charts, 'villupattu', skit, drama and songs.

D. Identifying the role of, and working with other members of a the health team in organizing community programmes.

3. To inculcate an attitude of concern and compassion for the individual and the community.

PHASE II COMMUNITY HEALTH PROGRAMME (CHP - 1) -IST CLINICAL YEAR

The objectives of the CHP -1 are:

A. To make the students aware of the:

- i) Principles of epidemiology
- ii) Principles of health planning
- iii) Principles of health administration
- iv) National health programmes with special emphasis on the organization of Primary Health Care
- v) Common health problems of a community
- vi) Utilization pattern of health services
- vii) Role of the various members of the health team

B. To provide them with skills in:

- i) Formulating a questionnaire
- ii) Carrying out community surveys - cross sectional morbidity and mortality surveys
- iii) Analyzing and interpreting data
- iv) Estimating vital statistics such as birth rate, death rate, infant mortality rate
- v) Carrying out observation and time-motion studies and interpreting the data
- vi) Health Planning
- vii) Use of various audio-visual aids - overhead projector, slide projector, movie projector etc.

PHASE III COMMUNITY HEALTH PROGRAMME II (CHP-II) - II CLINICAL YEAR

BROAD OBJECTIVES:

To provide the medical students with a learning experience in carrying out epidemiological studies evaluating national programmes in the field of health and development and in organizing health education programmes in the community.

SPECIFIC OBJECTIVES:

At the end of the programme the student should be able to

- I a. Describe the various epidemiological study designs and their relative merits
- b. Write a proposal for a community based study
- c. Formulate a questionnaire for obtaining valid and reliable information
- d. Calculate the required sample size
- e. Select a study population using approved sampling methods
- f. Collect the data
- g. Analyze the results using basic statistical methods
- h. Interpret the results
- i. Prepare a report and present the findings using relevant audio visual aids

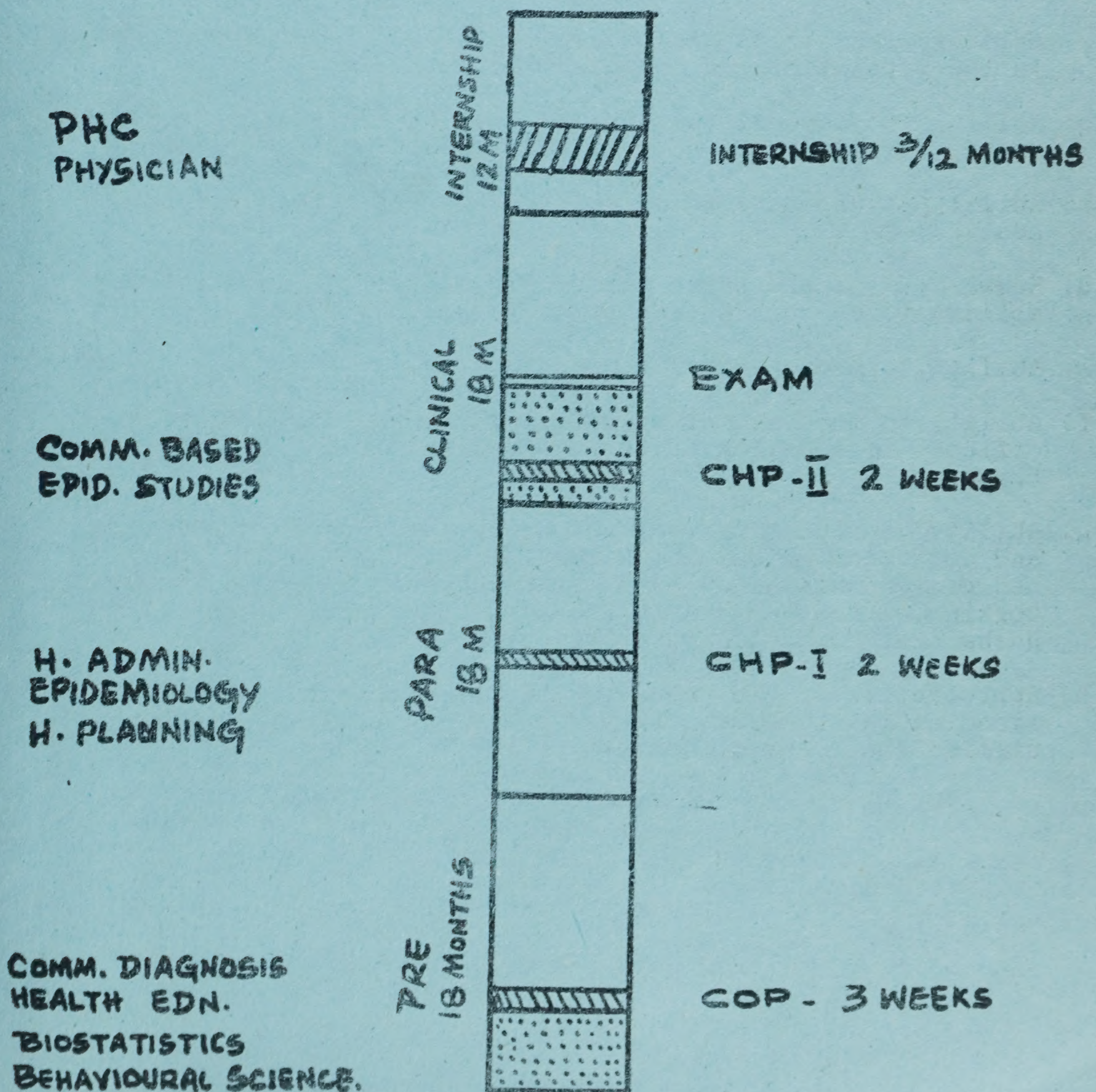
- II List the various members in the health team and describe their roles
- III Work as a member in a team involved in an intersectoral approach in the field of health and development
- IV Carry out a health education programme in the community and assess the effect of the programme on the knowledge or behaviour of the community

PHASE IV - INTERNSHIP PERIOD

The training of the interns aims to impart the following with regard to Community Health practice.

- a) Ability to organize preventive services for vulnerable groups in the population e.g. mothers and children.
- b) Ability to conduct surveys and use its findings as a means towards arriving at a community diagnosis.
- c) Ability to understand and work with other members of the health team.
- d) Knowledge of the basic principles of health education and ability to use health education techniques.
- e) Ability to promote family planning.
- f) Ability to function as a general physician (or medical officer) in a health center, a hospital or National Health Programme.
- g) Ability to identify the various factors, social, political and economic, which influence the health of a community; and gain knowledge of ways by which this could be improved by working with other disciplines e.g. agriculture, animal husbandry, cottage industries etc.
- h) Appreciation of the need to know government and private agencies in the community and acquiring knowledge of how to utilize their assistance.

TIME SCHEDULE FOR COMMUNITY MEDICINE



METHODOLOGY

PHASE I

Upon entry into medical school, the students are introduced, through didactic lectures, case studies and simulation games to sociology, psychology, and biostatistics. The main part of the primary health care training, however, takes the form of a block posting of three weeks in what is known as the community orientation programme. This experience aims to familiarize students with the demographic, socio-economic, and environmental aspects of rural community health; with beliefs about diseases; with the role of various members of the health team, with government and voluntary organizations in rural health; and with the principles of health education. The students, in groups of two or three (depending on how many Tamil-speaking students there are), live for two weeks in a rural community typical of those in the area. They use local sources of water, which they have to draw and purify; they plan the meals and help prepare the food; they hold their discussions and eat their meals in thatched huts and use toilet facilities constructed at the camp site.

Each group is assigned 12-15 households and asked to study them in detail, using a form, designed by the college's Department of Community Health and Biostatistics. Interviews and observations, help to uncover information on various aspects of village life. In addition, special studies are made of particular problems, such as the nutritional status of children (through anthropometric measurements), prevalence of diseases such as filariasis and scabies, the role of traditional practitioners, the social problems of old age and the status of women etc. Guidelines are supplied for filling the proforma as well as for analysis and presentation of data. (Refer to appendix II and III for the above). In case of special studies, faculty prepare dummy tables and outline the aims, objectives and methodology to be followed for each study (An illustration of which is given in appendix I).

With the help of the staff, the students analyze the data they have collected, which gives them practice in using and interpreting statistics and applying theories and methods they have learnt in the classroom. Groups of students then present their results to the rest of the class, using various methods of presenting the data. The ensuing discussion is often heated and educative and forms an important part of the learning experience.

During the camp, the students present special case studies of individual suffering from common illnesses which they have identified themselves. Senior faculty members from CMC are invited to be present at these presentations, and to help students understand both the socio-economic roots and implications of the problems and the practical aspects of finding solutions in the village context. The presence of specialists from Physiology, Pathology, Surgery, Child Health, Medicine, and Obstetrics & Gynaecology departments underlines the importance of Community Medicine.

To interact more effectively with the community, the students organize and participate in various other activities: games and competitions for the village children and young people, health education activities (particularly in nutrition), immunization programmes, construction of soakage pits to improve environmental sanitation, and the conduct of a medical clinic each evening. In all such activities they work both with community leaders and with other members of the health team. In order to help the students understand the existing programmes in the rural areas, officials from various government departments and agencies and personnel from relevant private industries give talks about their role in community welfare. At the end of the posting period, the students organize a social gathering for the village at which they thank its residents and entertain them with songs and dances.

The students, on their return to the college, spend three days presenting and discussing the data they have collected, with the help of staff members and the use of audiovisual aids. Their learning experience includes an evaluation of what they have accomplished.

An evaluation of the students feedback of the community orientation programme of 1989 is given on page .

Each year an attitude and knowledge test is also taken to note the impact of the programme. (For knowledge evaluation see page 20; and attitude analysis see page 21).

Planning: In order to implement a community orientation programme for 80 medical and para medical students, much of the planning and preparation of materials have to be done weeks in advance. An example of a planning process and a list of essential equipment needed is given below:

PLANNING PROCESS FOR THE COMMUNITY ORIENTATION PROGRAMME

STEPS

TIME IN WEEKS

- | | |
|--|---------------|
| 1. Introductory classes in Biostatistics, Sociology
Psychology, Tamil | 24 hours |
| 2. Selection of village with help of the leaders | 6 weeks ahead |
| 3. Meeting of Faculty (departmental & interdepartmental) to plan the various studies | 4 weeks ahead |
| 4. Mapping of village and numbering of households | 3 weeks ahead |
| 5. Second faculty meeting to finalise studies, proforma, identify equipment required | 3 weeks ahead |
| 6. Send proforma/Dummy tables for printing/cyclostyling | 2 weeks ahead |
| Request for vehicles | 2 weeks ahead |

- | | |
|---|--------------|
| 7. Grouping students and allotting areas for groups. Finalising schedules for sessions | 1 week ahead |
| 8. Construction of camp site(shed, toilets, baths, kitchen)All to be completed 2 days before COP | 1 week |
| 9. Leaders Meeting | 3 days ahead |
| 10. Gather Camp Articles/Equipment(list enclosed) including that for special studies teaching, clinic | 1 week ahead |
| 11. Arrange for Guest lectures & Clinical case discussions | 1 week ahead |

List of equipment needed for C.O.P.

For Classes:

Mats

Board/Duster/Chalk

Paper, pins, stappler

Notice Board

Flip Charts

Mastepaper Baskets

For Special Studies:

Weighing Scales

Height Rods

Inch Tapes

Kit for testing Development

Diet scales

Reading

Lancets, cotton swabs, pipettes

For Clinic:

Physical Facility

- Stools, Chairs, tables etc

Equipment For treatment room:

-B.P. apparatus, needles, syringes, Kidney tray, Glass slide, torch, thermometer, scissors, artery clamps, cheaters forceps, thumb forceps, K Basin, scalpel, cotton, gauze, bandage, gloves, suture material, drugs etc.

For Kitchen:

Vessels for cooking

Vessels for storing water

Ladles, spoons etc

Plates/tumblers

Smokeless choola

Provisions

For camp:

Vessels for storing water

Dippers

Mats

APPENDIX 1

SPECIAL STUDIES

1. PERINATAL CARE AND CHILD REARING PRACTICE

A. Learning Objectives:

I. To provide the student with a knowledge of:

- i. Basic physiology of pregnancy and child birth
- ii. Care of the mother during pregnancy and labour with respect to nutrition, workload, physical examinations and immunization.
- iii. Care of the new born especially cord care and breastfeeding
- iv. Care of the older children with respect to breast feeding, weaning and immunization.
- v. The components of the existing maternal and child health programmes, and the role of the different members of the health team in provision of MCH care
- vi. The existing health practices and beliefs regarding marriage, family size, feeding of the pregnant mother and child utilization of health services, traditional preparations, place of delivery, care of new born, breast feeding and weaning of children and immunization.
- vii. The influence of such beliefs on the health of the pregnant mother and her child.
- viii. Utilization of existing health care programmes for mothers and children.

II. At the end of this course the student should be able to:

- i. To identify members of the community who need such services and motivate them to utilise these services.
- ii. To identify traditional practices as harmful, beneficial or neutral and encourage those that are beneficial.

2. ANAEMIA

A. Learning Objectives:

I. To provide the student with a knowledge of:

- i. The metabolism of iron
- ii. The iron requirement and haemoglobin level of an individual during different phases of life
- iii. The adaptational changes in haemoglobin due to high altitude
- iv. The role of haemoglobin in oxygen transportation
- v. The breakdown of haemoglobin and formation of bile pigments
- vi. The various types of anaemia by examining blood smears

II. At the end of this course the student should be able to:

- i. Define and classify anaemia
- ii. Assess the magnitude of the problem in the community and its impact
- iii. Identify the high-risk group in the community
- iv. Write the social, environmental and cultural factors contributing to the disease.
- v. Identify food items which contain iron, which are available in the rural community
- vi. Carryout a diet survey and assess the iron content in the food consumed by individuals in the community
- vii. Diagnose anaemia by clinical examination and identify the complications of anaemia
- viii. Prescribe treatment for person with anaemia
- ix. Advise individuals regarding their dietary practice which is relevant to the individual's social background
- x. Manage the problem of anaemia in the community

3. NUTRITIONAL STATUS OF PRESCHOOL CHILDREN

A. Learning Objectives:

I. To provide the student with a knowledge of:

- i. The nutritional status of under fives in a community using different anthropometric measures.
- ii. The different variables like parents literacy and economic status on the nutritional status of children

II. At the end of this course the student should be able to:

- i. Use the following anthropometric measurements on each child and study the nutritional status as well as the correlations
 - a) Wt / age
 - b) Wt for height
 - c) Ht / age
 - d) mid upper arm circumference.

B. Methodology:

Fill in the nutritional anthropometry proforma. For each child fill in age and the appropriate anthropometric measures and information on SES / Literacy. Referring to the graphs and standards given to you and the classification category described below, classify the children as normal, grade 1, grade 2, grade 3, malnutrition by the following measurements

- 1) Wt / age 2) Height / age 3) MUAC 4) Wt / ht.

Now you are ready to fill in the dummy tables for the batch. The results for each group and then for all the groups can now be consolidated and analysed.

4. THE STATUS OF WOMEN

AIMS

To study the status of women in the community particularly with respect to child rearing, education, marriage and position in the family, occupation and social position.

A. Learning Objectives:

B. Methodology:

The study will use the 'focus group' approach. The allotment is as follows

- a) Group I - Men over 55
- b) Group II - Women over 55
- c) Group III - Young unmarried women (More than 15 years)
- d) Group IV - Young married women (More than 15 years)
- e) Group V - Young girls (10-14)
- f) Group VI - Young men (15-40)

Each batch must identify among their families people who belong to these categories. The lists of the people in each categories must be handed over to the group incharge of each focus group. Each group will be incharge of one focus group.

5. GROWTH AND DEVELOPMENT

A. Learning Objectives:

I. To provide the student with a knowledge of:

- i. The concepts of growth and development in children
- ii. Some reasons for abnormal growth and development including nutritional, environmental and genetic.

II. At the end of this course the student should be able to:

- i. Assess the range of normal growth and development (physical, social, emotional)
- ii. Recognise deviation from normal
- iii. Carry out anthropometric measurement
- iv. Assess developmental milestones.

B. Methodology

This study will be carried out on all children from 0-60 months. Each batch will study all the children in their households. On each child you will make an assessment of physical growth and of social and emotional development.

For physical assessment the children will be broadly divided into 2 groups: 1) 0 - 23 2) 24 - 60 months.

For children from 0-23 months make the following measurements

- 1) Weight
- 2) Mid Upper Arm Circumference
- 3) Head Circumference
- 4) Chest Circumference
- 5) State of anterior fontanelle

For children from 24 - 60 months make the following measurements.

- 1) Weight
- 2) Mid Upper Arm Circumference
- 3) Height
- 4) State of anterior fontanelle

Development studies will be carried out on all children. Use the proforma given. Begin with the appropriate age of the child. If the child does not achieve these milestones, go back. If he does, move ahead. In all children open the mouth and count the number and type of teeth and enter in the proforma.

You will have the following proforma to fill:

- 1) Assessment of Physical Status & Anthropometry
- 2) Assessment of Milestones
- 3) Dental Assessment

From this basic information you will look at

- a) Physical growth
- b) Nutritional status of individual and community
- c) Development of Dentition
- d) Motor and sensory development
- e) Social and emotional development

6. TRADITIONAL PRACICES AND BELIEFS

A. Learning Objectives

- i. To study the existing beliefs regarding the cause and prevention of certain common diseases.
- ii. To study the pattern of utilization of different methods of treatment for these diseases.
- iii. To identify local traditional practitioners and to study the methods used by them for treatment of diseases.

B. Methodology:

Information is obtained by interviewing a responsible adult member of the family in each household.

The age of the respondent and SES score of the family is noted. Questions regarding cause, prevention and treatment of certain diseases are asked. The proforma is divided into 2 sections. Section I is used for the first house and every second house thereafter and Section II is used for the second house and every second house thereafter.

SAMPLE DUMMY TABLE

TABLE 1: DISTRIBUTION OF DISABILITY BASED ON FUNCTIONAL CATEGORIES

FUNCTIONAL CATEGORIES	TOTAL MALE FEMALE	AVRG.	PROPORTION (%)			PREVALENCE (PER 1000)		
			MALE	FEMALE	AVRG.	MALE	FEMALE	AVRG.
FITS								
SIGHT								
HEARING PROBLEM								
SPEECH PROBLEM								
LEARNING PROBLEM								
MOBILITY								
EMOTIONAL PROBLEM								
OTHERS								
TOTAL								

TABLE 2: DISTRIBUTION OF DISABILITY ACCORDING TO CURRENT AGE AND SEX
THE POPULATION SURVEYED

[illegible]

COMMUNITY HEALTH DEPARTMENT CHRISTIAN MEDICAL COLLEGE
COMMUNITY ORIENTATION PROGRAMME 1989

EVALUATION OF STUDENTS FEED BACK

STUDENTS NO

MEDICAL	60
OT	9
PT	8
DIETARY	4
NO FEEDBACK	-2
TOTAL	79 (100%)

1. Student evaluation of COP objectives (refer page).
More than 90% of respondents felt that objective 1 was achieved to a significant extent except for sub objective F i.e the role of Government and voluntary organization and their programmes in improving the welfare of the rural community (23% felt that this was not achieved).

Similarly more than 90% of respondents felt that all the aims of objective 2 were achieved.

2 DISCUSSION AT THE END OF THE CAMP

	POOR %	AVERAGE %	EXCELLENT %
PRESENTATION	11.4	60.8	27.8
LEARNING EXPERIENCE	2.5	53.2	44.3

General survey and special study.

Key: A = poor , B = Average, C = Excellent, NR = No Response

TOPICS	BENEFICIAL				INTERESTING				RELEVANT			
	A %	B %	C %	NR %	A %	B %	C %	NR %	A %	B %	C %	NR %
General survey	-	50.6	43.0	6.3	6.3	57.0	31.6	5.1	3.8	44.3	41.8	10.
Belief and practices about disease	2.5	39.2	50.6	7.6	1.3	29.1	63.3	6.3	-	41.8	45.6	12.
Child rearing practices	2.5	46.8	49.4	1.3	8.9	48.1	36.7	6.3	2.5	34.2	55.7	7.
anaemia(not for OT/PT)	3.8	26.6	51.9	17.7	8.9	20.2	46.8	24.1	3.8	21.5	50.6	24.
anthropometry	8.9	57.0	31.6	2.5	17.8	45.6	26.6	10.0	3.8	53.2	32.9	10.
disabled	8.9	51.9	34.2	5.0	8.9	49.4	29.1	12.6	6.3	49.4	36.7	7.
Traditional practitioners	13.9	45.6	29.1	11.4	3.8	40.5	49.4	6.3	2.5	51.9	32.9	12.
Young womens status	6.3	49.4	37.9	6.3	6.3	44.3	45.6	3.8	7.6	35.4	50.6	6.
Health education	3.8	41.8	53.2	1.2	5.1	36.7	55.6	2.5	2.5	29.1	56.9	11.
clinic	3.8	29.1	62.0	5.1	5.1	13.9	72.1	8.9	1.3	17.7	67.1	13.
ase presentation	2.5	35.4	54.4	7.6	2.5	31.6	56.9	8.9	1.3	29.1	56.9	12.
ilestones	8.9	44.2	30.4	16.5	7.6	35.4	34.2	22.8	5.1	44.3	34.1	16.

4. SPECIAL LECTURES ON DEVELOPMENT PROGRAMME BY GOVERNMENT WELFARE AGENCIES

	INTERESTING				USEFUL			
	Poor %	Aver- age %	Excel- lent %	NR %	Poor %	Aver- age %	Excel- lent %	NR %
SPECIAL LECTURES	30.4	54.4	10.1	5.1	22.8	54.4	11.4	11.4

5. GUIDANCE FROM STAFF

Inadequate %	Adequate %	Excellent %
3.8	51.9	44.3

6. SKILLS ACQUIRED

TOPICS	Inade- quate %	Adeq- uate %	Exce- llent %	NR %
Interviewing individual & families	3.8	54.4	40.5	1.3
Using appropriate sampling methods	8.9	51.9	37.9	1.3
Analysis of data	3.8	62.0	32.9	1.3
Interpretation of data	8.9	60.8	29.1	1.3
Organising Community programme	6.3	50.6	41.8	1.3
Carrying out Health education	6.3	48.1	40.5	5.1
Doing haemoglobin estimation in community	7.6	45.6	40.5	6.3
Using a growth chart	7.6	46.8	40.5	5.1

7. COP IS RELEVANT FOR YOUR PROFESSIONAL EDUCATION

NECESSARY AND RELEVANT	89.9%
NOT NECESSARY IN THE 1ST YEAR	7.6%
R	

3. LIKE TO HAVE A SIMILAR PROGRAMME IN YOUR CLINICAL YEAR

YES	NO	NR
91.1 %	3.8 %	5.1 %

9. ANALYSIS (IMPRESSIONS ABOUT VILLAGE PEOPLE)

		PRE CAMP				POST CAMP				
		TOTAL RESPONDENTS: 75 ONLY				TOTAL RESPONDENTS: 61 ONLY				
S. NO	TOPICS	A %	B %	C %	D %	NR	A %	B %	C %	D %
1	CITIZAN	2.7	42.7	46.7	9.3	3	12.3	54.2	18.6	6.9
2	UNHEALTHY	18.6	40.0	38	12.0	13	11.1	34.8	49.4	4.9
3	FRIENDLY	61.3	29.3	5.3	1.3	2.7	92.8	2.5	-	4.9
4	COOPERATIVE	33.3	48.0	13.3	5.3	-	65.4	28.4	3.7	2.5
5	BELL INFORMED	-	10.7	29.3	60.0	-	2.5	39.5	40.7	17.3
6	SUSPICIOUS	18.7	24.0	29.3	28.0	-	1.2	6.2	37.0	43.2
7	POORLY-FED	40.0	48.0	9.3	2.7	-	22.2	54.3	22.2	1.2
8	CHEERFUL	33.3	54.3	10.7	-	2.7	63.0	29.6	4.9	2.5
9	HONEST	38.7	50.7	4.0	1.3	5.3	51.9	43.2	3.7	1.2

KNOWLEDGE - EVALUATION

		C.O.P	
BATCH		PRE	POST
1979	TOTAL SCORE	50	50
	MEAN SCORE	20.1	36.7
	PERCENTAGE SCORE	40.2	73.4%
1980	TOTAL SCORE	50	50
	MEAN SCORE	21.6	31.4
	PERCENTAGE SCORE	43.3%	62.8%
1981	TOTAL SCORE	50	50
	MEAN SCORE	21.3	28
	PERCENTAGE SCORE	42.6%	56%
1982	TOTAL SCORE	50	50
	MEAN SCORE	23.1	30.7
	PERCENTAGE SCORE	46.2%	61.4%
1983	TOTAL SCORE	50	50
	MEAN SCORE	23.2	35.3
	PERCENTAGE SCORE	46.4%	70.6%
1984	TOTAL SCORE	50	50
	MEAN SCORE	16.2	31
	PERCENTAGE SCORE	32.4%	62%
1985	TOTAL SCORE	50	50
	MEAN SCORE	15.9	29.4
	PERCENTAGE SCORE	31.8%	59%

ATTITUDE

EVALUATION

BATCH	C . O . P		CHP-I		CHP-II	
	PRE CAMP	POST CAMP	PRE	POST	PRE	POST
1979 TOTAL MARKS	60	60	58	58	-	56
MEAN SCORE	19.3	29	21.5	23.3	-	28
PERCENTAGE SCORE	32%	48%	37.1%	40.2%	-	50
1984 TOTAL MARKS	54	54	54	54	-	54
MEAN SCORE	17	26.4	21.8	24.5	-	26
PERCENTAGE SCORE	31.5%	43.9%	40.4%	45.4	-	48

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APPENDIX II

GUIDELINES FOR FILLING UP THE GENERAL SURVEY PROFORMA

Section A, B2, D and F of the general survey proforma should be filled up for each household. Section B1, C and G and H are to be filled in for every third house by systematic sampling. C and H are to be filled in for the same household. Section E (page 4 & 5) is to be filled in for each mother who has at least one child below 5 years.

Interview as far as possible the Head of the Household, if this is not possible, the respondent may be a responsible adult member of the family who will be able to furnish reliably the details of the household members.

Head of the House : A person who is considered as 'Head' by the member of the household.

Household : A group of individuals related to each other living under one roof and sharing at least the principal meal prepared from the same kitchen.

HHS No. : Household serial number. Each batch should give their own serial number.

Street : Write street name as given in the map

Map Serial No. : According to No. given in the map.

Community : Record the community for Hindus only; for others leave blank.

SECTION A:

Under the column "Name" write down the names of all members of the household.

Relation to Head: For each member record his/her relationship to the head of the household by using the following abbreviations.

W = Wife	B = Brother
S = Son	SI = Sister
D = Daughter	BL = Brother-in-law
H = Husband	SIL = Sister-in-law
GS = Grandson	DL = Daughter-in-law
GD = Granddaughter	FL = Father-in-law
F = Father	ML = Mother-in-law
M = Mother	SL = Son-in-law
U = Uncle	A = Aunt
NP = Nephew	NI = Niece

Against the head of the household write "Head"

Age & Sex: Write the age of male under M and age of female under F
For children under 1 year write '0'. For others record
the age in completed years.

Date of Birth: Record the months and year of birth for children
under 5 years. Refer to local calendar for a
list of Tamil Months and Muslim months.

Marital Status: Use abbreviations given in foot note.

EDUCATION: LITERACY AND "GRADE STUDIED UP TO"

Literacy: Use the code I - Illiterate (not able to read or write
etc.)

Note that only persons who do not know both reading and writing
should be classified as 'illiterate'. For children under five
write - PS (Pre-School).

Studied up to: Write the highest education status attained/
currently studying/ examinations passed. Write PS for children
under 5.

Residence Status: Use the following code:

PP - Permanently Present. Has been living or plans to live in the
village for a year or more

TP - Temporarily present. Person who has lived or will live in
the village for less than 1 year (e.g. married daughter who
has come to mother's house for delivery) Exclude if they are
present only for a day or two

TA -1. Unmarried son or daughter who is not at home at
present. (on day of survey)
e.g. Student in boarding school; Unmarried
son/daughter working elsewhere.

2. Married person absent from the village but part of
his/her family present on the day of survey. e.g. Husband
in the army with wife and children in the village.

3. An individual who is normally a resident of the village
but is away at the time of survey. e.g. Wife who has gone
to mother's house for delivery.

Give reasons for Temporary Absence or Temporary Presence in the
Remarks column.

OCCUPATION:

Specify the main occupation and the subsidiary occupation. If there is no subsidiary occupation write 'Nil'. The main occupation is the occupation that is considered as main by the respondent. In particular distinguish between the following.

- L - Land Owner : A person who owns land, employs others to cultivate his land and he himself does not work on the field. (OR)
A person who owns land and leases to a tenant to cultivate it.
- CO - Cultivator Owner: A person who owns land and cultivates it himself; may also in addition hire other people to work on his land.
- CT - Cultivator Tenant: The land is leased from some one else and he cultivates it. He may also hire other people to work.
- AL - Agricultural Labourer: A person who works on a field for wages. (in cash or kind)

In case a person can be classified in more than one classification, select the highest.

OCCUPATION is to be filled for all persons. If not employed,

HW - House wife*

RT - Retired but less than 60 years of age

D - Disabled

O - Old age age (aged 60 and above)

S - Student

UN - Unemployed (for those between 5 and 60 years and not studying)

PS - Children under 5 years

*HW- housewife needs to be distinguished from an unmarried girl who does domestic work.

Functional Status: N - Normal I - Impaired.

Impairment : An impairment is a residual limitation resulting from a congenital defect, a disease or an injury. An impairment may lead to disability or handicap.

Disability : is inability to perform an activity considered normal for the person

Handicap: is the impediment in the individuals functioning in some area of life such as work, travel or fulfilling family or other social role.

SECTION B

B. 1. Write the name and status of the people mentioned

B. 2. Inspect the facilities before entering B2.

SECTION F - Note For F2, F3, F5 and F6 enter actual number in addition to circling appropriate score.

1. Social Participation: This refers to membership of any member of the household in social organization (Past or present).
2. Land: The total land owned or cultivated by the family. Express as acres of wet land (5 acres of dry land = 1 acre of wet land).
3. Prestige animal: Horses, Camels or Elephants!
4. House:
 - Hut : Usually a one room-construction of mud walls with a thatched roof.
 - Kutchra House : Construction with more than one room with mud walls and a thatched roof.
 - Mixed House : A house which has one or two of the following. Cement or mortar used for plastering of wall or floor; tiled roof.
 - Pucca House : One which is built with a foundation, using stone or bricks with mortar and cement and having a concrete or a stone laid roof or tiled roof.
 - Mansion : A large house containing more than 5 rooms (excluding kitchen)

F 7. Family Type:

- Nuclear Family : Composed of husband, wife and unmarried children. Has one or two generations
- Extended Family : Composed of husband, wife and unmarried children and direct dependents. (may be 3 generations.)
- Joint Family : Composed of two or more couples and their children, belonging to the same household (all the men are related by blood)

F 8. Caste : For Muslims and Christians mark score 1

Scheduled Caste: Castes having a lower social prestige e.g. Cobbler (Arunthathy),

Lower caste/
Backward caste : Andravida/Harijan
Castes having low prestige but are not classified as scheduled caste e.g. dhobi, barbar (pandithar) shepherd (mandiri) valluvar (boosali), oddar.

Agricultural : Those who have farming as their main

Caste

Occupation. In case an agricultural caste is a dominant caste it should not be included in this category.
-Naidu, Naickar, Gounder (Vanniyar).

Artisan Caste : Those who pursue some crafts as their means of livelihood. e.g. Potter (Udayar) Blacksmith (Karumar) , Goldsmith(Achari), Carpenter, Pandaram, Chettiar.

Prestige Caste : The caste next in importance to dominant caste. e.g. Brahmin, Vysias, Karnegar, Pillai, Mudaliar.

Dominant Caste : The caste which dominates in a village (in this village - Gounder and Naikar)

F 9. Occupation : Generally this signifies the main occupation of the household, as the main source of livelihood.

Unskilled labourers : Those who are engaged by others on wages or who are casual labourers. Usually they get wages on daily basis and maintain their families with the wages.

Skilled Labourer : Include Artisans who follow their caste. Occupations like Tailor, Blacksmith, Carpenter, washerman, Potter, Barber and Beedi workers can be included.

Small business : Traders who maintain petty shops and are engaged in small business and trade activities.

Independent Profession : Also include persons who are in employment not carrying high social status. In this will be included the "Class IV employees" and village level workers.

Service etc. : The highest social status is for professions like medical, legal and engineering professions and for employment involving administrative responsibilities. In this category people like headmasters, Officers in Government and other employment, supervisory personnel etc. will be included.

TOTAL SOCIO-ECONOMIC STATUS (SES) SCORE:

Add all the scores given for items F1 through F10 and enter in the appropriate place, on page 1 and page 6.

SECTION C: Foods. See instructions in proforma.

SECTION G & H: Read the four foot notes given in the proforma carefully. Enter the particulars of produce of land. It may be helpful to ask particulars of land cultivated and use appendix 1 to estimate income. It would be convenient to ask in terms of cents or "kani" to get the area cultivated.

Conversion: 1 Kani = 132 cents
1 Acre = 0.75 kani

Write the number of animals owned.

Specify the kind of trees owned and enter their number. Use Appendix 1 to estimate income.

Enter the earning of workers.

Record earnings through other occupation (like shop keeping, beedi rolling, cottage industries etc.)

Calculate total annual income, G and annual per capita income later. Record amount of debts.

SECTION H: Record expenditure on food, clothes, education etc.
Refer Appendix 1

SECTION D & E: See instructions on proforma.

If you need any further clarification, Do not hesitate to consult the staff member.)

APPENDIX III

GUIDELINES FOR ANALYSIS AND PRESENTATION OF DATA

(Use appropriate diagrams to illustrate)

- I. a) Examine the age sex distribution of the population studied.
Draw a population pyramid.

Comment: How does the shape of the pyramid compare with those of a developed country?

- b. What proportion of the women are in the child bearing age group?
- c. What proportion of the population is below the age of:
a) 5 b) 15
- d. Calculate the child, woman ratio. As a measure of fertility what are the advantages and disadvantages of this rate?
- e. What is the Crude Birth Rate?
- f. What is Crude Death Rate?
- g. What proportion of eligible couples have accepted:
a) Temporary method of birth control?
b) Permanent method of birth control?
- h. Calculate dependency ratio.
What is its significance?
- i. Calculate male, female ratio - Comment.

II. Marital Status:

- a) Prepare a table showing the distribution of the population above 15 according to marital status by sex - comment.

III. Educational Status:

Prepare a table of population above age 5, according to literacy by sex. Similarly prepare a table of the population above 5 according to the level of education by sex. Comment on the differences in literacy and education according to age and sex.

IV. Occupation:

- a) Draw pie charts showing the distribution of those above 15 years of age according to occupation by sex.

What percentage of them are agricultural labourers?

In an area where cultivation is mainly dependent on rainfall what does this imply?
What percentage of the agricultural labourers have subsidiary occupation?

b) Show the frequency distribution of the families according to socio economic status

V. Classify common food items according to the beliefs of the villagers.

How does it affect the health and sickness behaviour of the people?

How can a health practitioner make use of this information?

VI. Show the distribution of families according to the ratio of expenditure over income during the past one year.

a) What are the limitations of this information?

b) What percentage of income is spent on:

- i) Food
- ii) Clothing
- iii) Medical care

c) What proportion of the families have to borrow money?

d) What is poverty line? What proportion of the families will fall under poverty line?

VII.a) Prepare a table showing the distribution of the farmers according to the source of finance for the various aspects of farming. Do you think that the available facilities through nationalised banks, land development bank and cooperative societies are being adequately made use of?

b) Prepare a table showing the distribution of farmers by the manner in which the farm produce is used/sold according to the type of produce.

c) Is regulated market being adequately made use of?

d) What will be the effect of increasing the cash crops on the health of a community?

VIII. Prepare a table showing the distribution of underfive children according to immunization status by age and sex.

(classify 3 - 5 months, 6-11 months, 12-23 months and 24-59 months)

Briefly mention the target under the UIP and compare the observed immunization coverage with these targets.

IX. Prepare tables showing

- a) Distribution of mothers according to consanguinity
- b) Antenatal checkup during the last pregnancy
- c) Place of delivery
- d) Distribution of home deliveries according to attendant and the type of instrument used to cut the cord
- e) Comment on the villagers beliefs regarding the type of food that need to be avoided during pregnancy
- f) What are the areas where education is necessary with respect to care of the newborn.

Describe the feeding practices of the infants using the data collected. Who influences the mother's decision regarding care of the child?

X. Describe the beliefs regarding the cause, mode of prevention and choice of treatment of common diseases. How can one make use of this information in planning educational programmes?

What do you think should be the role of traditional practitioners in primary health care?

MY IMPRESSIONS OF C.O.P. AND ITS RELEVANCE IN MEDICAL EDUCATION

Behind closed doors and under the keen, watchful eye of the group observer you endeavour to look calm and composed. The questioning begins and your pulse rate quickens as you answer question after question some truthfully, others not so truthfully. And finally the much awaited question, "why do you wish to become a doctor?" Before she has time to take a breath, you have your answer. "To serve the cause of suffering humanity".

Does medical education cater to suffering humanity or focus its attention on the urban community which is but a minority? Medical education has been limited to text-book knowledge. Students attend lecture after lecture and soon acquire the necessary knowledge. They are now ready to diagnose and treat. Is this the role of a doctor to diagnose and treat? Is this the health he administers?

Health implies more than the mere curing of sickness. Health extends far beyond the four walls of a clinic room or operating theatre; it reaches out to the people, to the society and community at large.

Such an awareness was created in our minds during the community orientation programme organized by the Community Health Department. It was here that we were exposed to true village life and for a good many of us, this two week live-in experience was our first taste of rural India.

It was a thrill to be able to identify with the villagers. The girls took great pains to wear sarees even if it implied an hour less of sleep in the morning. No invitation to a meal was ever declined and every dish was consumed in a spirit of enthusiasm, including kali and kool. Once a rapport had been established with them we found they could confide in us and share their problems. This doctor-patient relationship is a key-factor for good and accurate treatment and it has to be inculcated in our early years of training.

Equality of wealth in India is a far fetched dream. Even in the small community of Mottupalayam we had the very rich and the very poor. By means of a carefully thought out questionnaire. We were able to assess the social and economic status of the people. A knowledge of this kind gives us a tremendous insight into the nature and cause of various illnesses. It would be a grave mistake on the part of any doctor or student to ignore the poorer economic background from which most of the patients come. Such knowledge is only a stepping stone to better understanding and better treatment of the individual.

India is divided by rivers, streams and imposing mountains. She has people of diverse religions and customs. Age old traditions and beliefs have been passed down from one generation to another and have become a part and parcel of the Indian. A good knowledge of the traditions and practices of a region must be had by the concerned doctor. The doctor must be able to work along with the traditional practitioners, in whom the villagers have immense faith, but at the same time the doctor must curb any harmful practices and encourage good practices. To cite an example of the co-ordination of doctor and traditional practitioner let us consider diarrhoea. Here the traditional practitioner persists in chanting mantra's (to satisfy the patient) but at the end he gives them O.R.S. (and satisfies the doctor).

Emphasis has been laid on the importance of environmental sanitation in over all health. The prevalence of anaemia, skin infection and poor health conditions was attributed to the lack of toilets, soakage pits and good drainage systems. We are now aware of the importance of Health Education for villagers. Shutters of ignorance and illiteracy have to be lifted.

Studies on disability of people were carried out. A consciousness of the level of disability prevailing, its causes and methods of prevention was invoked. Similar studies were carried out based on diet habits of the people. A knowledge of those types of food which are considered as cold, hot, gaseous and good is necessary if we are to understand their beliefs.

Often the mood of fun and light heartedness was interrupted by the invasion of guest lecturers from the Agricultural Departments and Fisheries. The information they had was useful as it provided means and ways of getting hybrid crops at cheap rates or purchasing cows at a subsidized rate. A good knowledge of the available schemes equips oneself to uplift the economic status of the poor.

Our stay in the village exposed us to the cruel discrimination of the females. It is both a local need and an international need to raise the status of women. To quote Gopalan, "The girls of today will not only usher the generation of tomorrow but will also shape it. They are bound to contribute an increasing measure to the ranks of our future work-force. Considerations of, national self-interest as much as concern for norms of any civilized society demand that the handicaps which girls currently suffer or poverty, should be eliminated from our society".

The nutritional status of children under five was studied by Anthropometric measurements. We acquired skills in carrying out these measurements. Our findings once again pointed out the discrimination between the males and females. The greater percentage of malnourished cases and sadly enough the severest forms of malnourishment was detected in the lowlier sect of our community - the females.

Coupled with our other activities we were given ample opportunities to develop certain clinical skills such as drawing blood, immunizing children, dressing wounds and diagnosing simple cases.

But, perhaps the most valuable lesson of all was the realization of the importance of team work and unity. We had dietary students, occupational therapy and physiotherapy students as well as students from the Biostatistics Department. With each group specializing in their own field the over all performance was effective and well done.

The two weeks of fun and excitement and hardwork draw to a close all too soon. Each one was aware of the great challenge that lay before them as future doctors, each were awakened to the potential within them to fruitfully serve suffering humanity. The effect of the C.O.F., run and managed by the dedicated staff of CHAD, will never fade or grow dim. It has been an eye-opener to the real needs of our country.

by

Miss. Priya Abraham.

(1988)

PHASE II

The second phase, which takes place during the first clinical year and lasts two weeks, focuses on the principles of epidemiology, health administration, and health planning. It includes lectures, classroom exercises, and field exercises.

The students, working in groups of 10-12 have 2-3 villages as the subject of field investigations. They conduct a cross-sectional survey of morbidity and mortality and, from the data collected, estimate the morbidity rate, susceptible ages, and sex-specific prevalence of certain diseases; the birth rate, crude death rate, infant mortality rate, and maternal mortality rate; and the utilization of health services, the distances that must be travelled to reach the services, and the cost of treatment. The students study the various types of health services available at the different administrative levels, from primary health care center, through tahsil hospital and district hospital (or community health and development hospital), to the referral hospital. Through interviews with patients they obtain information on the distances patients have travelled, the types of disease that are common, and the length of time patients were ill before they sought medical aid. Information on each of the health services is compared in relation to types of illness, duration of illness, and distance travelled.

A time-and-motion study of the hospital organization is done to determine the waiting time and actual service time at various points - the doctor's consultation, pharmacy, laboratory and injection room.

On the basis of lectures and the data they collect, the students plan a programme for a defined problem for a specified population. Later, the students evaluate their programmes. Their knowledge of community health principles is, in turn evaluated at the end of this phase.

MEASUREMENT OF HEALTH NEEDS AND HEALTH UTILIZATION

Objectives:

1. To study the pattern of perceived morbidity in a community using a 2 week recall which reflects the health need.
2. To study the pattern of utilization of health service in community under the study in terms of service contacts which reflects the health demand.
3. To use the data generated for the health planning exercise.
4. To derive the indicators of health care in the community using all possible indices when you can calculate. For example
 - a. Demographic structure of the study population
 - b. Crude birth rate
 - c. Crude death rate
 - d. Infant mortality rate
 - e. Causes of mortality
 - f. Pattern of antenatal and natal services
 - g. Immunization status in less than 2 year old children.
5. Validate the above indicators using data from CHAD program
6. Estimate the cost of sickness in this community

DEFINITION OF TERMS:

Perceived Morbidity: Defined as a sickness symptom as suggested by the person. It is considered as a force that initiates decision making about whether or not medical care should be sought. It will not lead to use unless the need is of sufficient severity to warrant action.

Demand: It is assumed that effective demand and use of services are the same and number of service contacts is a method of measurement of demand.

Antenatal Care is any encounter with a health agency for care related to the pregnancy.

Service Contacts: Expressed in terms of the number of visits for the total morbidity conditions made by the person in 14 days. This includes self-medication.

Socio-economic scoring:

Housing kucha	1
Kucha pucca	2
Pucca	3
No house	0

Education: Highest education in family: Primary 1
 Middle to High school 2
 College 3
 Nil 0

Caste: Harijan colony 1
 Main village 2

Overall Scoring: Low 0 - 2
 Medium 3 - 5
 High 6 - 9

Cost of Sickness: Consultation
 Direct Drug
 Investigation
 Indirect Travel
 Loss of job for patient and the accompany

Type of service contact: Allopathy, Traditional, Homeopathy
 Mandram, Home Remedy

Place of service contact: PTCHW, Govt. Sub-centre, Mobile Clinic
 CHAD Hospital, Govt. PHC, Kaniyambadi, Dist. Hospital, CMCH,
 Private, self medication, Nil

Instructins for the survey:

A pilot survey will first be carried out at the village to help the students to get familiar with the method and to standardize the investigations. Please make a note of any doubts/difficulties encountered during the survey. You will be completing 3 - 5 families. The data will also be analysed on the same day and entered into dummy tables and final consolidation is also done.

The morbidity survey will be in the same village that you surveyed in the COP. You will be completing nearly 25 households for the survey.

At each village fill in the identification criteria; enumerate the members of the household currently residing in the family for the past 14 days. Visitors may be included if they are resident for 14 days. Every one else is excluded.

Within the enumerated population ask if anyone is sick today and note details of how long and what is wrong. Then ask if anyone was sick for the last 14 days and details. Make the predominant

symptom in the appropriate column and code the illness using the coding sheet given. In case of difficulty please consult your staff. Now mark the number of days ill and details of health service utilization also using the codes given. If the person has two spells of illness with symptom free interval of 2 days or more, consider them as two separate spells and code separately.

Now, ask if any one is pregnant in the enumerated group and note details.

Ask for history of births and deaths in the past one year in the house and note details. Tamil New Year can be the calender event mark.

Chronic illnesses like tuberculosis Leprosy, RF/RHD are recorded as a single morbidity experience.

GUIDELINES FOR CALCULATION OF

RATES, RATIOS AND OTHER INDICES FOR MORBIDITY SURVEY:

Incidence rate: The frequency of occurrence of new illnesses in a specified period of time.

Incidence rate =
$$\frac{\text{Number of new cases of a disease}}{\text{Population at risk} \times \text{duration of follow up}}$$
 per unit time

Prevalence: Describes the proportion of cases in a population at a given point of time. (including old and new cases).

Point prevalence =
$$\frac{\text{Number of persons who are sick at given time}}{\text{For a defined population under surveillance}} \times 100$$

Period prevalence =
$$\frac{\text{Number of persons who are sick any time during a definite period}}{\text{For a defined population under surveillance}} \times 100$$

Crude Rates:

Crude birth rate =
$$\frac{\text{No. of live births during the year}}{\text{Estimated mid year population}} \times 1000$$

Crude death rate =
$$\frac{\text{No. of deaths during the year}}{\text{Estimated mid year population}} \times 1000$$

Age specific death rate =
$$\frac{\text{No. of deaths among persons of a given age group in a year}}{\text{Mid year population in specified age group}} \times 1000$$

Cause specific death rate = $\frac{\text{No. of deaths from a stated cause in a year}}{\text{Mid year population}} \times 100000$

Infant mortality rate = $\frac{\text{No. of deaths in a year of children less than 1 year of age}}{\text{No. of live births in same year}} \times 1000$

Neonatal Mortality rate = $\frac{\text{No. of deaths in a year of children < 28 days of age}}{\text{No. of live births in same year}} \times 1000$

Post neonatal mortality rate = $\frac{\text{No. of deaths of infants 28 days to under one year}}{\text{Total live births.}} \times 1000$

Perinatal mortality rate = $\frac{\text{Late fetal deaths + deaths under 1 week}}{\text{Total live births + late fetal deaths*}} \times 1000$

* Definition of late fetal deaths = All still births after 28 weeks of gestation or babies weighing < 1000 gms.

Maternal Mortality rate = $\frac{\text{Deaths due to pregnancy or labour occurring with 42 days of child births}}{\text{No. of live births in the same year}} \times 1000$

Still birth ratio = $\frac{\text{No. of fetal deaths of 28 or more completed weeks of gestation}}{\text{No. of live births}} \times 1000$

Still birth rate = $\frac{\text{No. of fetal deaths of 28 or more completed weeks of gestation}}{\text{No. of live + still births}} \times 1000$

Age specific fertility rates = $\frac{\text{No. of live births in a given age group}}{\text{women in that particular age group.}} \times 1000$

Calculation of sickness experience for the total population = $\frac{\text{Total no. of sick days in population for acute and chronic diseases during the 14 days (duration of study)}}{\text{*Persons days of recall (observation)}} \times 1000$

*approximately total population studied x 14

Cost of sickness for the population to be computed.

SOME INFORMATION PERTAINING TO AN AREA COVERED BY A
COMPREHENSIVE HEALTH CARE PROJECT IS GIVEN BELOW

Total population	1,00,000
No. of children 0 - 4 years	8,000
Male / female ratio	1 : 1
Birth rate	24/1000
Child women ratio	400/1000
No. of child deaths: Less than 7 days	30
7 - 28 days	30
29 days to 1 year	60
No. of still births (> 28 week)	60
Maternal deaths: During pregnancy	1
From birth to 4 weeks	2
From 4th week to 6th week (after birth)	1
From 6th week to 8th week (after birth)	2
8th week to 12th week (after birth)	1
Total fertility rate	3680/1000
Calculate the following parameters:	
1. Perinatal mortality rate.	
2. Infant mortality rate	
3. Maternal mortality rate	
4. General fertility rate	
5. Gross reproduction rate	

DISEASE CODING FOR MORBIDITY SURVEY

- I. Infective disease
 - a) Diarrhoea
 - b) Tuberculosis
 - c) Leprosy
 - d) Acute respiratory infection
 - e) Undiagnosed fever
 - f) Rheumatic fever/Rheumatic Heart disease
 - g) Other infections including skin infection
- II. Nutritional, metabolic, endocrinal and blood related disorders
- III. Central nervous system, ENT, Dental and Eye problems
- IV. Cardio vascular system other than Rheumatic fever/Rheumatic Heart disease
- V. Respiratory system - other than Tb. and acute respiratory infection
- VI. Gastro intestinal system - other than diarrhoea and other infection
- VII. Genitourinary condition
- VIII. Accidents, Injuries, Poisoning, Sting, Bites
- IX. Ill defined condition.

TIME MOTION STUDY

1. To study how hospitals function in the service at various service points

Sub-objective: a) To determine time spent by an individual at each service point.
b) To determine the time patients have to wait before being served at each of the various counters.
c) To determine the capacities of the various service points and hence locate bottlenecks in the hospitals.

2. To determine the patient load at different hospitals and the doctor hours available for handling the same. This will enable inter - hospital comparison .

METHODOLOGY

1. Students were allotted at various service points in the various hospitals.
2. A unit time was chosen depending on the patient load and free hours.
3. The unit time was changed as the patient load demanded.
4. Using the parameters, QN and I to represent
C - No.of service counters
N - Queue length
T - Unit time are calculated

1. Individual service time	$= \frac{T \times C}{N} \text{ or } et \times C$
2. Effective service time (et)	$= \frac{T}{N}$
3. Waiting time	$= Q \times et.$
Capacity (C) was calculated by	$\frac{60}{et}$

The results were represented graphically.

Unit Time (T) should be chosen to be at least 3 or 4 times the probable et: Usually $t = 15$ minutes. The unit Time may be changed (e.g. to 5 min.) in consultation with your staff adviser.

Service Counters (C) : Record the number of open service counters every 15 minutes (if $T = 15$)

IF THERE IS A QUEUE

Queue Length (Q) : Count the queue length every 15 minutes
(If $T = 15$ min.)

Number Served (N): For the whole duration of the Unit time, count the total number of people who have been served

Calculate the individual service time and effective service time using the formulas given .

IF THERE IS NO QUEUE

Queue Length (Q) : Write "0" or "none" in this column.

Number served (N): See Individual service time (below).

Individual service time (i.t.) If there is no queue, measure the actual service time for 5 consecutive patients and calculate the average service time.

Effective service time (e.t.) : If there is no queue, calculate e.t. accoring to this formula $e.t. = i.t.$

C

CHANGE IN THE NUMBER OF OPEN SERVICE COUNTERS

Whenever there is a change in the number of open service counters (e.g. one more doctor starts seeing patients), record this change in the "Remarks" column. Also record Q, N and C at this time. If no service counters are open (e.g. if the clerk has left the registration desk) it will not be possible to calculate e.t., i.t., and w.t.

ANALYSIS OF TIME-MOTION STUDY

1. Draw graphs showing the relationship between the time of day (X-axis) and Q length, waiting time (Y-axis). Indicate on the graph all important changes (e.g. a change in the number of open service counters) A seperate graph should be drawn for each area observed
(Doctor's cubicle, registration counter etc.)

2. A "centered histogram" should be drawn for each HOSPITAL to show which area within that hospital has the lowest "capacity" (where is the bottleneck?) 60 minutes

Capacity =

e.t. (Measured in minutes)

(Calculate the average e.t. for each area and use this in the above formula)

Group No
Batch No

REGISTRATION CARD

PATIENT NAME

Hospital

Department / Service Area

Sex	Age	Duration of Illness				TOTAL
		0-5 days	6-14 days	15-30 days	31 days & more	
M	0 - 50 months					
	5 - 14 years					
	15 - 44 years					
	45 - 59 years					
	60 years					
	TOTAL					
F	0 - 50 months					
	5 - 14 years					
	15 - 44 years					
	45 - 59 years					
	60 years					
	TOTAL					

100

09
18
03
01
11
02
07
06
04
05
08

45

PHASE III

The third phase comes during the second clinical year and is of two to three weeks' duration. It aims to give the students an opportunity to apply in practice the knowledge and skills they have acquired in the previous two phases to community health assessment and health planning, implementation, and evaluation. In this phase, groups of 5 or 6 students are required to evaluate the health status of a community of 1500 residents and then plan, carry out, and assess a programme. Each group of student chooses a particular problem to work with. Usually these will be common and relevant health problems of the area or Nationally e.g. Nutrition, Leprosy, Tuberculosis MCH, Family Welfare, Environmental Pollution etc. The study questions are formulated in such a way that a variety of study designs will also be employed by the various groups e.g. descriptive study, case control study, evaluation etc.

During the implementation of their programmes, the students make their own time schedules and use the services of various members of the health team as required. Two staff members from the college are assigned to each group as resource persons, but provide only guidance. The students also give a feed back of their data analysis to the community. This provides an opportunity for the students to conduct a health education to the community (based on their analysis). The last few days of this phase are devoted to a presentation by each group of students of its project's objectives, methods, results, and limitations.

Each programme ends with an evaluation of the students' change in attitude towards rural medical care, knowledge acquired as a result of the programme, and the students' own assessment of the programme. The students have reported that this phase of their training is the most useful, because of the experience it gives them in actually organizing a programme on their own and doing something for a community. But its effectiveness depends on the knowledge and skills the students have acquired in previous phases.

An evaluation of the students change in attitude towards rural medical care is shown on the next page.

Some topics on which students carry out studies are as follows:

1. To study the knowledge, attitude and practice regarding oral rehydration therapy.
2. Family planning and the influence of family members on acceptance of family planning methods.
3. Immunization - To determine the coverage of BCG, DPT, OPV and measles vaccines in Vellore Town in children below 2 years. Measure the efficacy of measles vaccine from reported cases and hold a health education.
4. To study the mortality, growth and time of weaning of low birth weight (LBW) babies and compare the same on normal Birth weight babies born in Kaniyambadi block.
5. Age at marriage - to determine the factors contributing to high incidence of early marriage among women and the effect of employment on the age at marriage.
6. Industrial Pollution - To study the effect of tannery effluents and to create an awareness of the associated health hazards.
7. Infant mortality - to determine the reasons for the stagnation of the IMR in Kaniyambadi Block over the period of 1980 - 1988
8. Leprosy - study the epidemiology, treatment and community attitude towards Hansen's disease and conduct a health education programme based on the felt need.
9. Study child labour in beedi industry and automobile centres.
10. Nutrition - The assesment of Tamilnadu Integrated Nutrition Project (TINP)
11. Tribal study and morbidity - To assess health problems and utilization patterns in the two specific areas chosen and to draw a comparison.
12. To study the prevalance of Tuberculosis in selected communities.

Each topic has well defined aims, objectives and salient features that will guide the students while carrying out the study.

IMMUNIZATION

INTRODUCTION

1. Salient features of "Expanded Programme of Immunization (EPI):
 - a. Spreading of relevant and precise information about programme and disease.
 - b. Increased production of vaccines in the country itself.
 - c. Extensive training of medical and para medical personnel in EPI management.
 - d. Total coverage of infants and pregnant women in districts through intensified efforts as a strategy for future.
2. Universal programme of immunization (UPI) includes the following elements:
 - a. All infants below one year will be totally covered in an intensified manner.
 - b. Measles vaccine is an important part of the programme.
 - c. Targets are fixed to 100% by 1990 and in that sense, this is time bound action programme.
3. Immunization - general remarks:
 - a. It is very essential that all vaccinations under UIP are completed within one year of age.
 - b. The child need not be denied of breast milk any time before or after oral polio vaccine.
 - c. Between two vaccine doses there should be any interval of minimum 4 weeks. In case this interval increases even beyond 6 weeks for any length of time there is no need for revaccination.
 - d. The interval between primary vaccine and first booster dose should be minimum of 6 months.
 - e. Mild cough, cold and URI are not certain indications to any immunization.
 - f. Immunization should be delayed in children receiving corticosteroids and immune suppressive drugs.

AIMS AND OBJECTIVES

1. To determine the coverage of BCG, DPT OPV and measles vaccines in Vellore Town in children between the age group of 6 months to 2 years.
2. To measure the efficacy of measles vaccine from reported cases from March to May 1989, in Vellore Town.
3. To hold a health education campaign in an area with low vaccine coverage.

METHODOLOGY FOR EVALUATION OF VACCINATION COVERAGE:

The major steps followed in the evaluation of vaccination coverage in our programme are:

1. Collection of data
2. Tabulation of data
3. Evaluation of data

COLLECTION OF DATA:

Data is collected by the cluster sampling method. A cluster sample is a random sample in which each sampling unit is a collection or cluster of elements. In this case it is a group which contain 7 children in the age group of 6 months to 2 years.

We are surveying 30 clusters which will approximately indicate how many children are being adequately vaccinated. It has been shown that a properly collected sample consisting of 30 clusters of 7 children each will meet the following standard of reliability.

The data which will result from the survey will have a level of accuracy of +10%. For eg. If the survey shows a coverage of 70% in the sample one can be 95% sure that the coverage in the target population will be between 60-80%.

CLUSTER IDENTIFICATION:

The following guidelines are used for identification of clusters.

1. List all the wards in Vellore Town and the population.
2. Calculate and write the cumulative population.
3. Determine the sampling interval by the following formula .

$$\text{Sampling interval} = \frac{\text{Total cumulative population}}{\text{No. of clusters}}$$

4. The clusters are randomly selected for statistical validity. This is done by selecting a random number which is equal to or less than the sampling interval.

5. The random number indicates the first cluster to be chosen being the cluster which contains the number in the table of cumulative population. Each subsequent cluster is identified by adding sampling interval to the random number in a sequential manner.

Within each cluster the survey starts from a predetermined central spot. A random number between 0 and 39 provides the direction and the rank order of the house from which the search for seven children in the specified age group is to start from.

MEASUREMENT OF VACCINE EFFICACY:

All cases of measles reported to the MHO during March 1989, were screened using a questionnaire to validate the diagnosis. Cases which fit the predetermined clinical criteria were chosen. One age and sex matched control who did not have measles during this period was chosen for each of the cases. History of measles vaccination was obtained from the parents of cases and controls along with certain other important socio-demographic variables. The data was subjected to both matched and unmatched analysis.

VACCINE EFFICACY
HOUSE NO. _____

ADDRESS: _____

CASE CONTROL

NAME OF INTERVIEWER:-----

DATE OF INTERVIEW:----- Card Mother
INFORMAT :-----

MEASLES VACCINE GIVEN: -----
Yes No Age at vaccination-----

SYMPTOMS -----
Yes No

Fever 5 Days -----

*Rash 5 Days -----

Redness of Face -----

Rash Redness of mouth
characteristic -----
Running Nose -----

yes no In Appetite -----

Significant wt. loss -----

SEEN BY PHYSICIAN -----
Yes No -----
Definite case:-----
yes no -----

COMPLICATIONS: -----
Yes No -----

HOSPITALISED: -----
Yes No -----

Diarrhoea -----

Dysentery -----

Pneumonia -----

Supp. Otitis Media -----

Others -----

History of neighbourhood infection ----- Schooling child yes no

Size of Household: -----

Type of house: Kutcha Ordinary Modern Mansion

Educational status: Nil 1-5 6-12 >12
Mothers
Fathers

Interview

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СОНН. 10

COMMUNITY HEALTH CELL

326. V Main, 1 Block

Koramāṅgala

Bangalore-560034

India

LEPROSY

GOALS

Study the epidemiology, treatment and community attitude towards Hansen's disease and conduct a health education programme based on the felt need.

AIMS AND OBJECTIVES:

1. To study the incidence and prevalence of Hansens Disease in the village.
2. To study the clustering of leprosy within families observing the association with
contact
familiar predisposition
3. To study the treatment modalities available and to judge patient compliance.
4. To find out the awareness of and the attitudes towards Hansens Disease in a sample population.
5. To carry out a health education programme.

METHODOLOGY:

The population in the village was examined for Hansens Disease using the criteria:

1. Anesthetic hypopigmented patch
2. Thickened peripheral nerves with evidence of nerve damage
3. Smears were performed on all new suspected cases.

SOME LIMITATIONS (FROM STUDENTS FEEDBACK)

- Short duration of study
- Small sample size
- Lack of clinical experience

STUDY ON ORT

AIM:

To study the knowledge, attitude and practice regarding oral rehydration therapy in Sowdalipuram and Ramanayakapalayam.

OBJECTIVES:

1. To find out from the villagers their knowledge attitude and practices regarding oral rehydration therapy and compare between rural and urban areas.
2. To plan a health education programme regarding ORS
3. To investigate the diarrhoeal deaths of infants in Kaniyambadi block within the past one year.
4. To find out if other methods exist which are used more than ORT in the treatment of diarrhoea.

METHODOLOGY:

Sowdalipuram was chosen as the rural and Ramanayakapalayam as the urban community. The population of the children under five years was intended to be included in the study. In the rural community we covered all the houses which had children under 5 years of age which came upto 102. In the urban community we covered 200 houses taking all the houses with children under 5 in every alternate street.

In each house, the child's mother or any female above 20 years and looked after the child was questioned according to our proforma which included questions regarding knowledge, attitude and practice regarding ORT. There was also an investigation into the reasons for the cause of death of 10 out of 17 infants who had died the previous year due to diarrhoea in Kaniyambadi block.

In our health education programme films on ORS were shown. The villagers were taught the significance of ORT in diarrhoea through flash cards. A live demonstration of how to make ORS at home was conducted by the students with the help of a nurse.

LIMITATIONS OF THE STUDY

1. Time constraints
2. Informant
3. Leading questions
4. Negative answers
5. Illiteracy
6. No layout of urban area.

PHASE IV

The one-year compulsory internship is a continuation of undergraduate medical education. It includes a three-month community posting that aims to prepare the intern as a "basic doctor" and to give him or her elementary knowledge of community health practice. As part of the health team the interns participate in the organization and implementation of primary health care in the area where they are posted; they also do short evaluation studies of programmes conducted by the Department of Community Health of the college.

The "basic doctor" should be able to diagnose and treat common illnesses without the use of sophisticated laboratory aids and should know when to refer patients to specialists or to larger hospitals or other facilities. He should also be able to perform simple laboratory tests and common minor surgical procedures, such as tubectomy and vasectomy.

The interns' training in community health practice focuses on: organizing preventive services for vulnerable population groups, such as mothers and children; conducting surveys and using their findings as a means of evaluating the health status of the community; learning the basic principles of health education and how to use the relevant techniques; promoting family planning; functioning as a general practitioner (or medical officer) in a health center, hospital, or national health programme; identifying the various political and socioeconomic factors that influence a community's health and learning ways of improving it by working with people in other disciplines (e.g., agriculture, education, and animal husbandry); understanding and working with other members of the health team; and becoming familiar with other community agencies and the help that they have to offer.

During their community health posting, the interns are an integral part of the health team. They make regular visits to the villages to take part in leprosy outreach work; supervise the work of part-time community health workers, health aides, and nurses at mobile clinic sessions; give health education talks at community gatherings; conduct maternal and child health clinics; and treat common conditions and make the necessary referrals. They also participate in all the activities at the Community Health and Development Hospital, Bagayam, for 3-4 weeks, treating in-patients, working in the clinical laboratory, seeing patients in the outpatient clinic, and performing simple surgical procedures under the supervision of a senior doctor.

Staff members attempt to use each patient encounter as an opportunity for teaching. Patients are told the causes of their maladies and how to prevent such disorders in the future. The intern learns to view patients not simply as isolated individuals with particular clinical disorders but also as signs of an

unhealthy physical, biological, or social environment. An environmental problem, for example, can be viewed as a "community disease" and the patient as a "sign" of that disease. Treatment of the "community disease" often requires the use of nonmedical approaches - hence the doctor's need to work with people in other disciplines. The necessity for involving the whole community in the solution of certain types of problem is demonstrated to the interns.

Working in pairs, the interns conduct a special study during their community posting. Often these studies serve as pilot projects that subsequently evolve into larger-scale endeavors.

As noted above, an important aspect of our training model is evaluating it at various stages. At the end of the each posting, the students submit a confidential report on aspects of the programme, on its conduct and its results; and they are asked for suggestions for improvement. Department staff members give serious consideration to the students' evaluations, make relevant comments themselves, and try to alter subsequent programmes accordingly, striving always to provide training that is relevant to India's basic health needs.

Projects:

During the CHAD postings all interns are expected to do one minor project to study the organizational aspect of a development programme.

They also present a paper on management of common conditions in a small hospital and topics related to community health and management e.g. Low Birth Weight Babies, Snake bites, rural water supply, social forestry etc.

Each intern follows up one clinico-social case, going to the home of the patient and assessing the impact of socio-economic and community factors on health. These are presented at regularly conducted meetings to the staff of CHAD.

During the posting, they attend the monthly meetings where a review of all the ongoing programmes of the secondary care centre are done through routine monitoring and surveillance systems.

Interns carry out a major project (an epidemiological study) on a topic of their own interest with guidance from faculty members. Over the years many studies have been carried out. Some of them are listed below.

1. Traditional practitioners - profile study
2. Immunization status and reasons for poor immunization in Anaicut Block
3. Relevance of CMCH to the immediate community
4. Comparison of the morbidity pattern in Jawadhi hills and Kaniambadi block.

5. Study on the attitudes of people in Kaniambadi block to temporary methods of family planning
6. Study to find the prevalence of smoking habits and related respiratory problems in males
7. Adult Education - an evaluation of the impact of adult education programmes.
8. Prevalance of filariasis in Kurumpar palayam village
9. To estimate the incidence of low birth weight babies in hospital deliveries in Kaniyambadi block
10. To evaluate the factors affecting the age at marriage of women in rural community and to compare the factors between 2 generations.
11. Deforestation - its implications on health and environment
12. Attitudinal survey of medical students
13. Study of suicides and parasuicides in Kaniyambadi block
14. Evaluation of patients compliance and prescription analysis
15. Cost effectiveness of an MCH clinic in Edyansathu village

A set of guidelines are given to all interns at the beginning of their CHAD (Community Health And Development) posting. The guidelines gives details on the objectives of the programme and the nature and amount of work expected from each intern during the Community Medicine posting. It covers procedures to be followed in each sub-posting during this period. i.e. Base Hospital (wards, high risk clinics, theatre, labour room etc.), mobile clinics, tribal project, leprosy posting, tuberculosis programme, RUHSA, Urban Community Health and Anaicut (ROME Block). The day to day activities of the base hospital and the protocols to be followed are also given.

(Note: A copy of internship guidelines is available from the Community Health Department of Christian Medical College, Vellore on request).

RECORDS:

1. At the end of the three months posting the intern is required to submit his/her community health record. This would consist of 2 out-patient cases followed upto their homes. Therefore a detailed work up is necessary. One or both of these will have to be presented on Thursday morning meetings at 7.30 am.
2. A record of one nutrition rehabilitation patient including the diet sheet that you have worked out.

3. A critical review of the following programmes of CHAD:

- a) MCH (Base Hospital and periphery)
- b) PTCHW
- c) Leprosy clinic
- d) Madhar Sangam
- e) Urban programme
- f) Jawadhi Hill programme
- g) Anaicut

4. a) A copy of the project that you have carried out
b) Copy of the paper presented
c) Health education carried out in the ward

5. Lab. procedures

6. List of operation done

7. One of the development programmes in detail (eg.) craft centre, balwadi, Madharsangam, adult education, dairy society, animal husbandry, piggery and agricultural. This will be presented on Monday or Thursday s.

8. The surveillance and monitoring system of CHAD discussing the statistics presented at any monthly meeting.

WEEKLY SCHEDULE:

1. The CHAD Hospital runs an outpatient clinic every day from 7.30 am to 12.30 pm except on Sunday.

DAY	TIME	PROGRAMME	PLACE
Monday	7.30 am	Prayer. Seminar meeting	Conference Hall
		Paper presentation.	
	2.00 pm	Chart meeting	
	2.30 pm	Weekly review meeting	
		3rd Monday monthly review meeting	
Tuesday	7.30 am	Grand rounds	Ward
Wednesday	8.00 am	Dermatology clinic (after prior arrangement)	Ward
	10.00 am	Newly married couples meeting	Conference Hall
	2.00 pm	MCH clinic	
Thursday	7.30 am	Case and project presentation	Conference Hall
		Health Education & case discussion	Ulcer ward
Friday	7.30 am	Grand rounds	Ward
Saturday	10.30 am	Area staff meeting	Conference Hall

INTERNS CHAD POSTING - 3 MONTHS

DURATION	POSTING	NATURE OF WORK
1 WEEK	ANALCUT	WORK IN PHC WITH GOVT. STAFF - ROME SCHEME
1 WEEK	LAB	FAMILIARIZATION WITH SIMPLE PROCEDURES TO BE EQUIPPED FOR WORK IN RURAL AREAS
1 WEEK	LABOUR ROOM	MONITORING PATIENTS IN LABOUR, ASSISTING DELIVERIES IN SECONDARY CARE CENTRE, POSTNATAL CARE, HEALTH EDUCATION
1 WEEK	URBAN	WORK WITH GOVT. MUNICIPAL CLINICS WORK WITH VARIOUS C.M.C. URBAN SERVICES
1 WEEK	THEATRE	PERFORM TUBECTOMIES, MINOR SURGICAL PROCEDURES, ASSIST IN CEASAREANS
1 WEEK	LEPROSY	PERIPHERAL CLINICS, TAKING CARE OF ULCER WARD IN CHAD PRESCRIBING FOOT WEAR SCHOOL SURVEYS, HEALTH EDUCATION
1 WEEK	WARD	IN-PATIENT CARE; WOMEN & CHILDREN, COMMON INFECTIOUS ILLNESSES, HEALTH EDUCATION IN WARDS
3 WEEKS		OPD CASUALTY DUTY MOBILE CLINICS SPECIAL CLINICS i.e. HIGH RISK CLINIC, WELL-BABY CLINIC, LEPROSY CLINIC, TUBERCULOSIS VISITS TO JAWADHI HILLS (TRIBAL AREA) & FOLLOW-UP HEALTH EDUCATION IN VILLAGES, TEACHING PERIPHERAL WORKERS ATTEND MATHER SANGAM (WOMEN'S GROUPS)
2 WEEKS	RUHSA	POSTED TO K.V.KUPPAM BLOCK. EXPOSURE TO ANIMAL HUSBANDARY AGRICULTURE, SOCIO-ECONOMIC WELFARE WORK

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